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case of the Bradley Fertilizer Co., in the Agricultural Hall, there is a megalodon tooth, from the Stono River, which measures 6 inches 8 lines in median length from a level of the ends of the root to the point of the crown, and 4 inches 8 lines in breadth across the base. A second specimen in the same collection and from the same locality is 6 inches in median length, and 5 inches 1 line in breadth.

A specimen from the Ashley River, formerly in the possession of Prof. Holmes, according to him, measures 6 inches 5 lines in length, and 5 inches 5 lines in breadth, and weighs 2 lbs. 8 drachms, apothecaries' weight.

These specimens are probably the largest shark teeth on record. If the animals to which they pertained held anything like the relation of length of body to the teeth as existing in the living white shark, they must have been upwards of a hundred feet in length.

JUNE 27.

The President, Dr. RUSCHENBERGER, in the chair.

Fifty-one members present.

Remarks on the Rhizopod Genus Nebela.—Prof. LEIDY stated that in order to facilitate a ready reference to ordinary forms of rhizopods, he was disposed with some other observers to restrict the genus Difflugia to those rhizopods with lobose pseudopods, which ordinarily possess a covering or test composed of extraneous bodies, such as particles of quartzose sand, and diatome cases. In the genus Nebela, which he had viewed as distinct from Difflugia, the test is composed of discoid plates and minute rods, apparently siliceous and intrinsic to the structure of the animal.

To the genus Nebela probably belong the species named by Ehrenberg, *Difflugia collaris*, *D. cancellata*, *D. carpio*, *D. binodis*, *D. annulata*, and *D. laxa*. Likewise the *Difflugia peltigeracca* of Carter, most of the forms described by Wallich under the name of *Difflugia pyriformis*, var. *symmetrica*, and also the *Difflugia carinata* of Archer. Formerly Prof. L. had indicated several species under the names of *Nebela ansata*, *N. equi-calceus*, *N. sphagni*, *N. numata*, *N. barbata*, and *N. flabellulum*. Pr. A. N. S. 1874, 156.

Most of the above-named species of Ehrenberg had been referred by the same author to a group with the names of Reticella and Allodictya, headed with a species named *Difflugia asterophora*, which, so far as could be judged from the description and figure, did not coincide with the characters of Nebela. Of the forms referred to *Difflugia symmetrica* by Dr. Wallich, the first one described has recently, by Schulze, been viewed separately from the others as characteristic of a new genus with the name of

Quadrula symmetrica. The test of this is composed of quadrate plates, arranged in rows, like bricks in a wall.

In all the species referred to Nebela, which have been observed by Prof. L., in all instances the test is compressed pyriform. Wallich remarks in reference to the tests of *Difflugia symmetrica*, that they "are sometimes so compressed as to give the aperture the undulating appearance represented in Figs. 27, 29 and 30, but more frequently the tests are not compressed, and the aperture presents the ordinary circular or nearly circular outline."

The species *Nebela numata*, probably synonymous with *D. collaris*, is an exceedingly abundant form, in much variety in our sphagnum swamps, and illustrates well the character of the genus, and also exemplifies the extraordinary variation in the structure of the test, which appears to be common also in the other species of Nebela.

In some individuals of *Nebela numata*, the test is composed of or invested with comparatively large circular disks of uniform size, as represented in the diagram (Fig. 1). In other individuals the disks are of the same character, but oval as in Fig. 2. In other individuals again the test is invested with circular or oval disks as in the former, but separated, uniformly scattered, and with the intervals filled with small circular disks as in Fig. 3. In other instances large circular or oval disks occupy the fundus of the test, and small ones extend from one-half of the body to the mouth, sometimes mingled with a few of the larger disks. In some instances the test is composed of minute circular disks alone, or with a few large oval or larger circular ones scattered here and there.

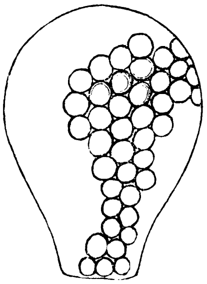


Fig. 1.

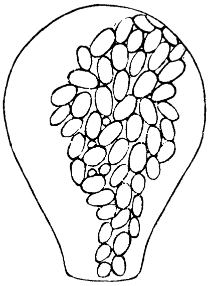


Fig. 2.

Generally the disks of the tests are sharply defined, closely placed, and touching at their contiguous edges. Sometimes they are crowded, and assume in a certain focus a more or less polygonal outline. Sometimes they appear to overlap the edges. Usually very distinct; they are sometimes more or less indistinct.

The large disks in a certain focus appear centrally shaded, and exhibit a striking resemblance to ordinary blood corpuscles.

Not unfrequently the test is mainly or almost entirely composed of minute rods, placed in alternating oblique patches, with a few minute round disks, as in Fig. 4. In other tests the disks predominate. In some tests large and small disks and rods are intermingled. In other tests larger, and fusiform rods, probably diatomes, are mingled with disks, as in Fig. 5.

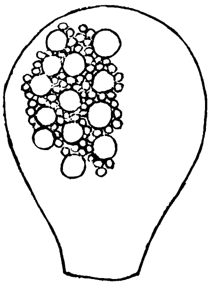


Fig. 3.

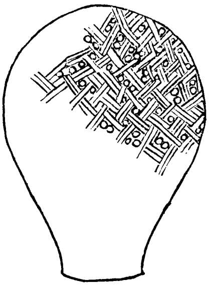


Fig. 4.

Between the structural forms of the tests indicated, all sorts of intermediate forms are found. Occasionally, mingled with the more intrinsic elements of the tests, there are undoubted diatome cases, and rarely distinct and comparatively larger particles of siliceous sand.

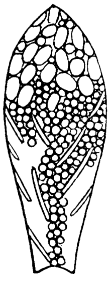


Fig. 5.

Prof. L. looked upon the disks and rods of the test of Nebela as intrinsic structural elements. They appear to be siliceous, as they undergo no change in heated sulphuric acid. No similar elements could be detected among the ordinary materials among which the animals lived.

Dr. Wallich regards the disks and rods, of the forms he has called *Difflugia pyriformis* var. *symmetrica*, as being derived through the metamorphosis of diatome cases, through the combination of these with the basal substance of the test. In the reference to his figures 27 to 33 *An. and Mag. Nat. Hist.* 1864, pl. he says that they "represent the series of forms exhibiting the transition from the ordinary mineral and chitinoid elements of the test to the evolution of the colloid disks." Prof. L. remarked that notwithstanding he had examined multitudes of Nebela, he was not prepared to confirm this view, though he had too much respect for Dr. Wallich's accuracy of observation to doubt its correctness.

The figures 1–4 represent ordinary forms of *N. numata ;* and

Figure 5 the relative compression of the test. Figure 6 is the form described as *N. flabellulum*, which may be regarded as an extremely broad variety of the former. Figure 7 represents the relative thickness of the same test. Between the forms referred to *N. numata* and *N. flabellulum*, all sorts of transitional ones occur. Figures 8, 9 exhibit two views of a narrow form of *N. numata*, which resembles the *Difflugia binodis* of Ehrenberg.

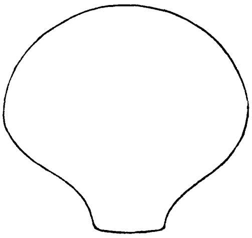


Fig. 6.

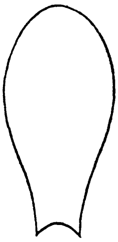


Fig. 7.

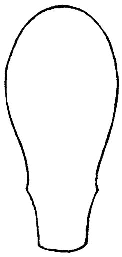


Fig. 8.

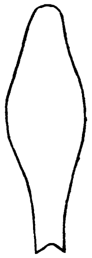


Fig. 9.

Figure 10 represents an outline view of *Nebela carinata*, or *Difflugia carinata* of Archer, from sphagnum of New Jersey. Figure 11 represents a transverse section. Figure 12 *Nebela equicalceus*, a transitional form from *N. carinata*. Figure 13 a transverse section. Figure 14 *Nebela ansata*, which looks as if it were derived from the former by the loss of the horse-shoe-like ribs. Figure 15, another form observed, unnamed, in which, instead of the horse-shoe of Figure 12, there are two hook-like processes projecting in the interior of the test. Figures 16, 17 outlines of *Ne-*

Fig. 11.

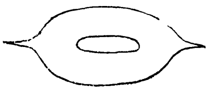
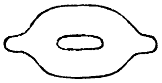


Fig. 13.



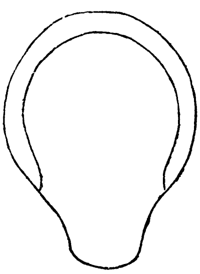


Fig. 10.

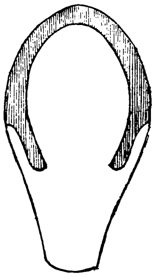


Fig. 12.

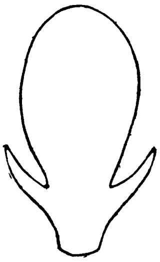


Fig. 14.

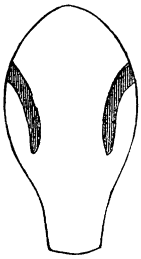


Fig. 15.

bela sphagni. Figure 18 *Nebela barbata.* For characters of the species see *Proc. Acad. Nat. Sci.* 1874, 156.

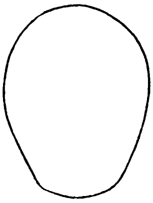


Fig. 16.

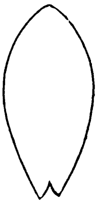


Fig. 17.

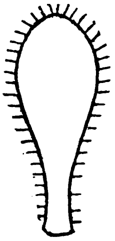


Fig. 18.

On Certain Trap Rocks from Brazil.—Prof. PERSIFOR FRAZER, Jr., stated that during a recent engagement by the Commission of Brazil to the International Exhibition, now being held here, to examine and arrange the ores, minerals, and rocks of that country, a number of traps were obtained, of which thin sections had been submitted to a preliminary investigation.

These have been studied without the aid of chemical analysis, and the results, so far, are hereby laid before the Academy.

It is evident that this mode of determination cannot by itself be exhaustive, but it is believed that some new facts are hereby added to our knowledge of the igneous rocks of the globe, and a close analogy between certain species of North and South America made out. It was not possible to ascertain the localities in all cases. The following is a partial list:—

No. 580.—Between Casa Branca and Rio das Pedras.

No. 587.—Between Ouro Preto and Casa Branca.

No. 610.—From Resaquinha.

No. 790.—Procedencia Morrotos.

The following is a hasty glance at their mineral constituents:—

No. 279.—*Dolerite.* Labradorite, Pyroxene, Chlorite, and Magnetite.

No. 580.—Pyroxenite rock, with microliths.

No. 587.—Pyroxene and Biotite.

No. 591.—Decomposed mass, containing Pyroxene and Magnetite.

No. 610.—Chlorite, with concretions of Ferric Hydrate.

No. 635.—Under 230 diameters, and without polarized light, the "flowing" structure is well shown.

Between crossed Nicol's prisms the lines which resemble microliths exhibit an intricate network and polarize from white to light blue. Under 1080 diameters the above lines seem to be corrugations or clefts in the mass, while a new set of minute black and brown prismatic crystals come into view, indicating by the gradual curve in the line of their direction also a "flow